

REMARKS

This responds to the Office Action mailed on December 9, 2004. In that Office Action, the Examiner rejected claims 1-6 under 35 U.S.C. § 102(b) as being anticipated by Seguin et al., U.S. Patent No. 5,607,471. The Examiner also rejected claims 1-6 under 35 U.S.C. § 102(e) as being anticipated by Cox, U.S. Patent No. 6,250,308. Claims 1-6 have been canceled and new claims 7-10 have been added in order to clarify certain inventive aspects over the Seguin et al. and Cox patents. The subject matter of claims 7-10 is fully supported with reference, for example, to Figs. 22-24 of the present application. Applicants respectfully submit that claims 7-10 are neither disclosed nor suggested by the Seguin et al. or Cox references, or any other prior art of record. Claims 7 and 8 pertain to asymmetric annuloplasty devices, while claims 9 and 10 pertain to methods for improving the function of a heart valve respectively using the devices recited in claims 7 and 8. Applicants' counsel respectfully submits that the device and method claims are properly examined and allowable in this application, without restriction, since the device limitations as respectively recited in claims 7 and 8 are also recited in the methods of claims 9 and 10.

Seguin et al., U.S. Patent No. 5,607,471

The Examiner asserts that the Seguin et al. patent discloses a device for supporting a heart valve "comprising a ring asymmetric about two perpendicular planes, having a narrower first half and having a portion (lines 27-31 of column 4) lying or angled out of the plane of the ring." More specifically, the Examiner directs Applicants' attention to Figures 2 and 3, and lines 27-31 of column 4 of the Seguin et al. patent.

First, it is important to note that the embodiment shown in Fig. 2 of the Seguin et al. patent is different than the embodiment shown in Figure 3 of the Seguin et al. patent. Specifically, ring 3, shown in Fig. 2, is intended for use on the tricuspid valve of a heart, while ring 2, shown in Fig. 3, is intended for use on the mitral valve of the heart. While it is true that the tricuspid ring of Fig. 2 has a more narrow right side (as viewed in Fig. 2) than left side thereof, and that the mitral ring of Fig. 3 has an upward bend, there is no reason whatsoever provided by this reference or any other art for combining the assymmetric shape of the tricuspid ring shown in Fig. 2 with the upward bend of the mitral ring shown in Fig. 3. In this regard, the tricuspid ring of Fig. 2 is shaped as shown only because this is the natural shape of a tricuspid valve annulus. Moreover, the mitral valve ring shown in Fig. 3 of Seguin et al. has a segment extending upward or against the blood flow direction, as opposed to a segment extending downward or with the blood flow direction, as set forth in new claims 7-10 of the present application. This upward deformation 6 is stated as having the "advantage of adjusting better to the natural geometry of the biological ring." This is believed to refer to the ability of this ring to accommodate tissue associated with the aortic valve root adjacent the mitral valve. It would not have been obvious to combine the mutually exclusive shapes of the tricuspid and mitral valve rings shown in Figs. 2 and 3 of the Seguin et al. patent absent an improper hindsight reconstruction based on Applicant's disclosure. Moreover, even if the shapes of these rings were combined, the resulting structure and method would not result in Applicant's claimed invention. Instead, the result would have been a mitral ring with an upward deformation, not the claimed downwardly extending segment.

Applicants therefore respectfully submit that claims 7-10 are clearly patentable over the Seguin et al. patent.

Cox, U.S. Patent No. 6,250,308

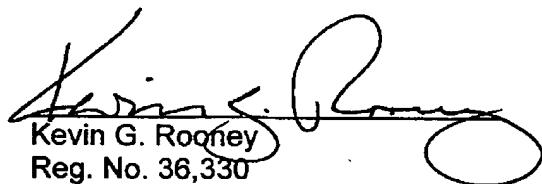
With regard to the Cox patent, the Examiner refers to Figs. 2A and 2B of the patent and alleges that Cox discloses a "ring asymmetric about two perpendicular planes, having a narrow first half and having a segment (70) lying in or angled out of the plane of the ring." Fig. 2A, however, illustrates a standard symmetrical D-shaped mitral valve annuloplasty ring which, as better shown in Fig. 2B, has a segment 70 deformed upwardly. As stated in the sentence spanning column 6 and column 7 of the Cox patent, this segment, or more specifically, bow 70 conforms to the contour of the annulus 34 adjacent the aortic valve root as shown in Fig. 1E. The Cox patent fails to show or suggest a downwardly extending segment in the direction of intended blood flow through the ring as specifically set forth in claims 7-10. Moreover, the Cox ring is symmetrically shaped about its minor axis as opposed to asymmetrically shaped about the minor axis as set forth in claims 7 and 9. Cox further fails to disclose that the portion of the ring on one side of its minor axis defines a smaller area than the portion of the ring on the opposite side of the minor axis as set forth in claims 8 and 10 of the present application. For all of these reasons, claims 7-10 are respectfully submitted to be patentable over the Cox patent, as well as the other prior art of record.

If there is any additional matter in need of discussion upon review of this application, the Examiner is invited to contact Applicants' undersigned counsel by telephone to expedite issuance of this application.

Applicants believe that no other fees are due in connection with this response. However, if such petition is due or any fees are necessary, the Commissioner may consider this to be a request for such and charge any necessary fees to deposit account 23-3000.

Respectfully submitted,

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